



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
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DATA MATRIX

Date February 15, 2019	EPA Reg No./File Symbol 92694-	Page 1 of 23
Applicant's/Registrant's Name & Address Gruhn Mill Crop Solutions, LLC 701 Fifth Avenue, Suite 6100 Seattle, WA 98104	Product Glufosinate Technical	
Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
PRODUCT SPECIFIC DATA REQUIREMENTS					
830.1550	Product Identity and Composition	50755201	Gruhn Mill Crop Solutions, LLC	OWN	
830.1600	Description of Materials Used to Produce the Product	50755201	Gruhn Mill Crop Solutions, LLC	OWN	
830.1620	Description of the Production Process	50755201	Gruhn Mill Crop Solutions, LLC	OWN	
830.1650	Description of the Formulation Process				Not required ¹
830.1670	Discussion of Formation of Impurities	50755201	Gruhn Mill Crop Solutions, LLC	OWN	
830.1700	Preliminary Analysis	50755202	Gruhn Mill Crop Solutions, LLC	OWN	
		50755203	Gruhn Mill Crop Solutions, LLC	OWN	
		50755204	Gruhn Mill Crop Solutions, LLC	OWN	
		50755205	Gruhn Mill Crop Solutions, LLC	OWN	
830.1750	Certified Limits	50755201	Gruhn Mill Crop Solutions, LLC	OWN	
830.1800	Enforcement Analytical Method	50755215	Gruhn Mill Crop Solutions, LLC	OWN	
830.6302	Color	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.6303	Physical State	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.6304	Odor	50755207	Gruhn Mill Crop Solutions, LLC	OWN	
830.6313	Stability to Normal and Elevated Temperatures, Metals and Metal Ions	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.6314	Oxidation / Reduction: Chemical Incompatibility	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.6315	Flammability	50755216	Gruhn Mill Crop Solutions, LLC	OWN	Waiver ²
830.6316	Explosibility	50755208	Gruhn Mill Crop Solutions, LLC	OWN	
830.6317	Storage Stability	50755216	Gruhn Mill Crop Solutions, LLC	OWN	PRN 92-5 ³
830.6319	Miscibility	50755216	Gruhn Mill Crop Solutions, LLC	OWN	Waiver ⁴

Signature 	Name and Title Nicole O'Loughlin Senior Regulatory Consultant	Date Feb. 15, 2019
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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
830.6320	Corrosion Characteristics	50755216	Gruhn Mill Crop Solutions, LLC	OWN	PRN 92-5 ³
830.6321	Dielectric Breakdown Voltage				Not required ⁵
830.7000	pH	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.7050	UV / Visible Absorption	50755210	Gruhn Mill Crop Solutions, LLC	OWN	
830.7100	Viscosity				Not required ⁶
830.7200	Melting Point / Melting Range	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.7220	Boiling Point / Boiling Range	50755216	Gruhn Mill Crop Solutions, LLC	OWN	Waiver ⁷
830.7300	Density / Relative Density / Bulk Density	50755206	Gruhn Mill Crop Solutions, LLC	OWN	
830.7370	Dissociation Constants in Water	50755211	Gruhn Mill Crop Solutions, LLC	OWN	
830.7520	Particle Size, Fiber Length, and Diameter Distribution	50755216	Gruhn Mill Crop Solutions, LLC	OWN	Waiver ⁸
830.7550	Partition Coefficient (n-octanol/water), Shake Flask Method	50755212	Gruhn Mill Crop Solutions, LLC	OWN	
830.7560	Partition Coefficient (n-octanol/water), Generator Method				See 830.7550
830.7570	Partition Coefficient (n-octanol/water), Estimation by Liquid Chromatography				See 830.7550
830.7840	Water Solubility: Column Elution Method, Shake Flask Method	50755213 50755214	Gruhn Mill Crop Solutions, LLC Gruhn Mill Crop Solutions, LLC	OWN OWN	
830.7860	Water Solubility: Generator Column Method				See 830.7840
830.7950	Vapor Pressure	50755209	Gruhn Mill Crop Solutions, LLC	OWN	
870.1100	Acute Oral Toxicity – rat	00142430 00142431 00142432		OLD OLD OLD	See endnote ⁹

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.1200	Acute Dermal Toxicity – rat	00142436 00142437		OLD OLD	See endnote ¹⁰
870.1300	Acute Inhalation Toxicity – rat	00151496 00151497		OLD OLD	See endnote ¹¹
870.2400	Eye Irritation	00142438		OLD	See endnote ¹²
870.2500	Skin Irritation	00142438		OLD	See endnote ¹³
870.2600	Skin Sensitization	00142439		OLD	See endnote ¹⁴
GENERIC DATA REQUIREMENTS					
850.2100	Acute Avian Oral Toxicity	00142450 00142451		OLD OLD	See endnote ¹⁵
850.2200	Acute Avian Dietary Toxicity	00150988 00150989		OLD OLD	See endnote ¹⁶
850.2400	Wild Mammal Toxicity				Not required / See 870 series
850.2300	Avian Reproductive Toxicity	40345649 40345650		OLD OLD	See endnote ¹⁷
850.2500	Simulated or Actual Field Testing				Not required

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.1075	Freshwater Fish Toxicity	00142454 00142455 00144338 00159913 00159914		OLD OLD OLD OLD OLD	See endnote ¹⁸
850.1010	Freshwater Invertebrate Toxicity	00142456 00144339 00145067 00159915		OLD OLD OLD OLD	See endnote ¹⁹
850.1025, 850.1035, 850.1045, 850.1055, 850.1075	Acute Toxicity Estuarine and Marine Organisms	41396104 41396105 41396107 41396108 41396109 41396110 42262403		OLD OLD OLD OLD OLD OLD OLD	See endnote ²⁰
850.1300	Aquatic Invertebrate Life Cycle (Freshwater)	40501010		OLD	See endnote ²¹
850.1350	Aquatic Invertebrate Life Cycle (Saltwater)				Not required ²²
850.1400	Fish Early Life Stage (Freshwater)				Not required ²³
850.1400	Fish Early Life Stage (Saltwater)				Not required ²⁴
850.1500	Life Cycle Fish				Not required ²⁵

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.1710, 850.1730, 850.1850	Aquatic Organisms Bioavailability, Biomagnification, Toxicity	40501017 41323130		OLD OLD	See endnote ²⁶
850.1950	Simulated or Actual Field Testing for Aquatic Organisms				Not required
850.1735	Whole Sediment: Acute Freshwater Invertebrates				Not required
850.1740	Whole Sediment: Acute Marine Invertebrates				Not required
N/A	Whole Sediment: Chronic Invertebrates Freshwater and Marine				Not required
850.3020	Honey Bee Acute Contact Toxicity	40345654 41364002		OLD OLD	See endnote ²⁷
850.3030	Honeybee Toxicity of Residues on Foliage				Not required
850.3040	Field Testing for Pollinators				Not required
870.6100	Delayed Neurotoxicity (Acute) – Hen				Not required
870.6200	Acute Neurotoxicity – Rat	45190701 45190702 45190703 45190704		OLD OLD OLD OLD	See endnote ²⁸

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.3100	90-Day Oral: Rodent	40345609 44076201 44076202 44076206 44076207 44068501 45179103		OLD OLD OLD OLD OLD OLD OLD	See endnote ²⁹
870.3150	90-Day Oral: Non-Rodent	40345608 44068502 44076203		OLD OLD OLD	See endnote ³⁰
870.3200	21/28-Day Dermal Toxicity	40345605		OLD	See endnote ³¹
870.3250	90-Day Dermal Toxicity				Not required ³²
870.3465	90-Day Inhalation Toxicity	40345606 47058101	Bayer CropScience LP	OLD PAY	See endnote ³³
870.6100	28-Day Delayed Neurotoxicity Hen				Not required
870.6200	90-Day Neurotoxicity	45179101 45179102 45297001		OLD OLD OLD	See endnote ³⁴
870.4100	Chronic Oral Rodent	40345607 41144701 44539501		OLD OLD OLD	See endnote ³⁵

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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.4200	Carcinogenicity	40345607 40345609 41144701 41144702 44539501		OLD OLD OLD OLD OLD	See endnote ³⁶
870.3700	Reproduction/Developmental Toxicity Screening Test	00142445 00142446 00151499 00151500 40345610 40345611 41144703 43829405 44076204 44076205 44076209		OLD OLD OLD OLD OLD OLD OLD OLD OLD OLD OLD	See endnote ³⁷
870.3800	2-Generation Reproduction: Rat	40345612		OLD	See endnote ³⁸
870.6300	Developmental Neurotoxicity Study	46455701	Bayer CropScience LP	PAY	See endnote ³⁹
870.5100	Bacterial Reverse Mutation Test	00142440 (ACC 072962)		OLD	See endnote ⁴⁰
870.5300, 870.5375	In vitro Mammalian Cell Assay	40354616		OLD	See endnote ⁴¹

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
870.5385, 870.5395, 870.5450, 870.5550	In vivo Cytogenetics and Other Effects	00142442 (ACC 072962) 40345614 41144704		OLD OLD OLD	See endnote ⁴²
870.7485	Metabolism and Pharmacokinetics	40345640 40345642 43766913 43766914 43778402		OLD OLD OLD OLD OLD	See endnote ⁴³
870.7200	Companion Animal Safety				Not required
870.7600	Dermal Penetration	40345620 45922103		OLD OLD	See endnote ⁴⁴
870.7800	Immunotoxicity	48491101	Bayer CropScience LP	PAY	See endnote ⁴⁵
875.1100	Dermal Exposure – Outdoor		Agricultural Handler Exposure TF	OWN	See endnote ⁴⁶
875.1200	Dermal Exposure - Indoor				
875.1300	Inhalation Exposure – Outdoor		Agricultural Handler Exposure TF	OWN	See endnote ⁴⁶
875.1400	Inhalation Exposure - Indoor				
875.1500	Biological Monitoring		Agricultural Handler Exposure TF	OWN	See endnote ⁴⁶
875.1600	Data Reporting and Calculations		Agricultural Handler Exposure TF	OWN	See endnote ⁴⁶
875.1700	Product Use Information		Agricultural Handler Exposure TF	OWN	See endnote ⁴⁶

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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
875.2100	Dislodgeable Foliar Residue and Turf Transferable Residues	45251401		OLD	
875.2200	Soil Residue Dissipation		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.2400	Dermal Exposure		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.2500	Inhalation Exposure		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.2600	Biological Monitoring		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.2700	Product Use Information		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.2800	Descriptions of Human Activity		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.2900	Data Reporting and Calculations		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
875.3000	Nondietary Ingestion Exposure		Agricultural Reentry TF Outdoor Residential Exposure TF	OWN OWN	See endnote ⁴⁷
201-1	Droplet Size Spectrum		Spray Drift TF	OWN	See endnote ⁴⁸
202-1	Droplet Size Spectrum		Spray Drift TF	OWN	See endnote ⁴⁸

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Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.4100	Tier 1: Seedling Emergence	41396111 48531301 48718501	Bayer CropScience LP Bayer CropScience LP	OLD PAY PAY	See endnote ⁴⁹
850.4150	Tier 1: Vegetative Vigor	41396112 41396113 47542602	Bayer CropScience LP	OLD OLD PAY	See endnote ⁵⁰
850.4400, 850.4500	Tier 1: Aquatic Plant Growth	40345653 42262404 47542603 47542605 48444817	Bayer CropScience LP Bayer CropScience LP Bayer CropScience LP	OLD OLD PAY PAY PAY	See endnote ⁵¹
850.4100	Tier 2: Seedling Emergence	41396111 48531301 48718501	Bayer CropScience LP Bayer CropScience LP	OLD PAY PAY	See endnote ⁴⁹
850.4150	Tier 2: Vegetative Vigor	41396112 41396113 47542602	Bayer CropScience LP	OLD OLD PAY	See endnote ⁵⁰
850.4400, 850.4500	Tier 2: Aquatic Plant Growth	40345653 42262404 47542603 47542605 48444817	Bayer CropScience LP Bayer CropScience LP Bayer CropScience LP	OLD OLD PAY PAY PAY	See endnote ⁵¹

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850.4300	Terrestrial Field				Not required
850.4450	Aquatic Field				Not required
850.4025	Target Area Phytotoxicity				Not required
850.4550	Cyanobacteria Toxicity	48444816	Bayer CropScience LP	PAY	See endnote ⁵²
835.2120	Hydrolysis	40345656		OLD	See endnote ⁵³
835.2240	Photodegradation in Water	40345657 41323115		OLD OLD	See endnote ⁵⁴
835.2410	Photodegradation in Soil	40345658 41920102		OLD OLD	See endnote ⁵⁵
835.2370	Photodegradation in Air				Not required
835.4100	Aerobic Soil Metabolism	40345659 41323118 41323119 41920103		OLD OLD OLD OLD	See endnote ⁵⁶
835.4200	Anaerobic Soil Metabolism	40501014 41323119 41323120 41920103		OLD OLD OLD OLD	See endnote ⁵⁷
835.4300	Aerobic Aquatic Metabolism	40345660 45204401 45204402		OLD OLD OLD	See endnote ⁵⁸

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835.4400	Anaerobic Aquatic Metabolism	46258601	Bayer CropScience LP	PAY	See endnote ⁵⁹
835.1230	Leaching/Adsorption/Desorption	40345662 41323121		OLD OLD	See endnote ⁶⁰
835.1410	Volatility – Laboratory	41323122 41920104		OLD OLD	See endnote ⁶¹
835.8100	Volatility – Field				Not required
835.6100	Soil Field Dissipation Study	40345663 40345664 40345665 41323124 43110402 43766915 43766916 47542601	Bayer CropScience LP	OLD OLD OLD OLD OLD OLD OLD PAY	See endnote ⁶²
835.6200	Aquatic Sediment Field Dissipation Study				Not required ⁶³
835.6300	Forest Field Dissipation Study				Not required
835.6400	Combination and Tank Mixes				Not required
835.7100	Ground Water Monitoring				Not required

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DATA MATRIX

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Applicant's/Registrant's Name & Address Gruhn Mill Crop Solutions, LLC 701 Fifth Avenue, Suite 6100 Seattle, WA 98104	Product Glufosinate Technical	
Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
850.6100	Environmental Chemistry Methods	40345666	Bayer CropScience LP Bayer CropScience LP Bayer CropScience LP	OLD	See endnote ⁶⁴
		41323123		OLD	
		41920106		OLD	
		43766915		OLD	
		47542606		PAY	
		47542607		PAY	
		49055301		PAY	
860.1300	Nature of the Residue: Plants	40501001		OLD	
		40501002		OLD	
		41323107		OLD	
		41323109		OLD	
		41323129		OLD	
		43515602		OLD	
		43515603		OLD	
		44358601		OLD	
		44358605		OLD	
		44358606		OLD	
		44358607		OLD	

Signature 	Name and Title Nicole O'Loughlin Senior Regulatory Consultant	Date Feb. 15, 2019
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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1300	Nature of the Residue: Livestock	40345645		OLD	
		40345646		OLD	
		41323110		OLD	
		43766918		OLD	
		43766919		OLD	
860.1850	Confined Rotational Crops	00142471		OLD	
		00157818		OLD	
		40501015		OLD	
		41323125		OLD	
		41323126		OLD	
		41920105		OLD	
		43766917		OLD	

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1340	Residue Analytical Methods	40345666	IR-4	OLD	
		41095802		OLD	
		41323113		OLD	
		42121905		OLD	
		42523602		OLD	
		42523603		OLD	
		43515604		OLD	
		43524601		OLD	
		43612302		OLD	
		44903201		OLD	
		44973001		OLD	
		45137001		OLD	
		47828203		PL	
860.1360	Multiresidue Method	43515605		OLD	
		43766920		OLD	
860.1380	Storage Stability	44827901	Bayer CropScience LP	OLD	
		45782201		OLD	
		48201502		PAY	
860.1500	Magnitude of the Residue in Plants: Bananas	42121901		OLD	
		42121902		OLD	
		42121903		OLD	
		42121904		OLD	

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: Bushberry, Subgroup 13B	45580201 47035701	Bayer CropScience LP	OLD PAY	
860.1500	Magnitude of the Residue in Plants: Canola (including LibertyLink® trait)	44358605 44358608 44358609 48976701 48976703	Bayer CropScience LP Bayer CropScience LP	OLD OLD OLD PAY PAY	
860.1500	Magnitude of the Residue in Plants: Citrus, Group 10-10	47915701	Bayer CropScience LP	PAY	
860.1500	Magnitude of the Residue in Plants: Corn (field and sweet) (including LibertyLink® trait)	40501004 43515606 43515608 43766923 44425201 44425202 47828201 47828202 49963402	IR-4 IR-4 Bayer CropScience LP	OLD OLD OLD OLD OLD OLD PL PL PAY	
860.1500	Magnitude of the Residue in Plants: Cotton (including LibertyLink® trait)	45089301 45089303		OLD OLD	
860.1500	Magnitude of the Residue in Plants: Grapes	40501007		OLD	
860.1500	Magnitude of the Residue in Plants: Juneberry	45580201 47035701	Bayer CropScience LP	OLD PAY	

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: Lingonberry	45580201 47035701	Bayer CropScience LP	OLD PAY	
860.1500	Magnitude of the Residue in Plants: Olives	47915704	Bayer CropScience LP	PAY	
860.1500	Magnitude of the Residue in Plants: Pome fruit, Group 11-10	40501006 47915702	Bayer CropScience LP	OLD PAY	
860.1500	Magnitude of the Residue in Plants: Salal	45580201 47035701	Bayer CropScience LP	OLD PAY	
860.1500	Magnitude of the Residue in Plants: Soybeans (including LibertyLink® trait)	40501003 43515607 43766924 43766925 48205501 49963401	Bayer CropScience LP Bayer CropScience LP	OLD OLD OLD OLD PAY PAY	
860.1500	Magnitude of the Residue in Plants: Stone fruit, Group 12-12	47915703 47915705	Bayer CropScience LP Bayer CropScience LP	PAY PAY	
860.1500	Magnitude of the Residue in Plants: Sugar beets (including LibertyLink® trait)	44358602 44358603 44358604		OLD OLD OLD	
860.1500	Magnitude of the Residue in Plants: Tree nuts, Group 14	40501005 49974601	Bayer CropScience LP	OLD PAY	

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)		

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1500	Magnitude of the Residue in Plants: Potato (vine desiccation)	44358611 44358612 44583901		OLD OLD OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Canola	44358610 48976702	Bayer CropScience LP	OLD PAY	
860.1520	Magnitude of the Residue in Processed Food or Feed: Citrus	47915706	Bayer CropScience LP	PAY	
860.1520	Magnitude of the Residue in Processed Food or Feed: Corn	40501004 43515608 43766926 44033302		OLD OLD OLD OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Cotton	45089302		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Grapes	40501007		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Olives	47915708	Bayer CropScience LP	PAY	
860.1520	Magnitude of the Residue in Processed Food or Feed: Apples	40501006		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Soybeans	40501003 43515609 43766927		OLD OLD OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Plum	47915707	Bayer CropScience LP	PAY	

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Ingredient Glufosinate-ammonium (CAS No.: 77182-82-2; Chemical Code: 128850)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
860.1520	Magnitude of the Residue in Processed Food or Feed: Sugar beets	44358604		OLD	
860.1520	Magnitude of the Residue in Processed Food or Feed: Potatoes	44358612		OLD	
860.1480	Magnitude of the Residue in Meat, Milk, Poultry, and Eggs	41323111 41323112 43766921 43766922		OLD OLD OLD OLD	
860.1400	Nature and Magnitude of the Residue in Potable Water				Not required
860.1400	Magnitude of the Residue in Fish				Not required
860.1400	Magnitude of the Residue in Plants Resulting from the Use of Irrigation Water				Not required
860.1460	Magnitude of the Residue in Food Handling Establishments				Not required
860.1900	Field Rotational Crops	40501015 40501016 41323127 41323128 45644901 46573701	Bayer CropScience LP	OLD OLD OLD OLD OLD PAY	

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Data Matrix Endnotes for Glufosinate Technical

- ¹ **830.1650** – These data are not required for a TGAI. See guideline 830.1620 for production process data.
- ² **830.6315** – Gruhn Mill Crop Solutions, LLC is requesting a waiver from this data requirement as Glufosinate Technical is not a liquid containing combustible components. See the Confidential Statement of Formula for more information.
- ³ **830.6317, 830.6320** – As per PR Notice 92-5, storage stability and corrosion characteristics data are not required to be submitted unless specifically requested by the Agency. Gruhn Mill Crop Solutions, LLC will submit these data if required by the Agency as a condition of registration.
- ⁴ **830.6319** – Gruhn Mill Crop Solutions, LLC is requesting a waiver from this data requirement as Glufosinate Technical is not an emulsifiable liquid to be diluted with petroleum solvents. See the Confidential Statement of Formula for more information.
- ⁵ **830.6321** – These data are not required as Glufosinate Technical is not an end-use product labeled for use around electrical equipment.
- ⁶ **830.7100** – These data are not required for a solid product.
- ⁷ **830.7220** – These data are not required for a solid. See guideline 830.7200 for melting point data.
- ⁸ **830.7520** – Gruhn Mill Crop Solutions, LLC is requesting a waiver from this data requirement as Glufosinate Technical is not water insoluble and is not a fibrous test substance.
- ⁹ **870.1100** – The studies cited are acceptable and satisfy the data requirement as per the Jul. 25, 2012 *Glufosinate Ammonium - Updated Human Health Risk Assessment for the Proposed New Use of Glufosinate Ammonium in/on Citrus Fruit (Crop Group 10), Pome Fruit (Crop Group 11), Stone Fruit (Crop Group 12), Olives and Sweet Corn (DP Barcode D387413)* (Human Health Risk Assessment).
- ¹⁰ **870.1200** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ¹¹ **870.1300** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ¹² **870.2400** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- ¹³ **870.2500** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- ¹⁴ **870.2600** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- ¹⁵ **850.2100** – The studies cited are acceptable and satisfy the data requirement as per the Sept. 12, 2014 *Environmental Fate and Ecological Risk Assessment for the Registration Review of Glufosinate* (Ecological Risk Assessment). Passerine were not required in the Registration Review Data Call-In (DCI) nor have these data been submitted.
- ¹⁶ **850.2200** – The studies cited are acceptable and satisfy the data requirement as per the Ecological Risk Assessment.
- ¹⁷ **850.2300** – The studies cited are acceptable and satisfy the data requirement as per the Ecological Risk Assessment. Newer submitted data that are duplicative of previously submitted acceptable data are not cited.
- ¹⁸ **850.1075** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment. Newer submitted data that are duplicative of previously submitted acceptable data are not cited.

Data Matrix Endnotes for Glufosinate Technical

- ¹⁹ **850.1010** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment. Newer submitted data that are duplicative of previously submitted acceptable data are not cited.
- ²⁰ **850.1025, 850.1035, 850.1045, 850.1055, 850.1075** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- ²¹ **850.1300** – The study cited is acceptable and satisfies the data requirement as per the Ecological Risk Assessment. Newer submitted data that are duplicative of previously submitted acceptable data are not cited.
- ²² **850.1350** – These data are not required as per the Ecological Risk Assessment.
- ²³ **850.1400** – These data are not required as per the Ecological Risk Assessment.
- ²⁴ **850.1400** – These data are not required as per the Ecological Risk Assessment.
- ²⁵ **850.1500** – These data are not required as per the Ecological Risk Assessment.
- ²⁶ **850.1710, 850.1730, 850.1850** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- ²⁷ **850.3020** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- ²⁸ **870.6200** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ²⁹ **870.3100** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ³⁰ **870.3150** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ³¹ **870.3200** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- ³² **870.3250** – These data are not required as per the Human Health Risk Assessment.
- ³³ **870.3465** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Human Health Risk Assessment.
- ³⁴ **870.6200** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ³⁵ **870.4100** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment. Chronic dog data are not cited as these data are no longer required as per the 2007 changes to 40 CFR Part 158.
- ³⁶ **870.4200** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ³⁷ **870.3700** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- ³⁸ **870.3800** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- ³⁹ **870.6300** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- ⁴⁰ **870.5100** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.

Data Matrix Endnotes for Glufosinate Technical

- 41 **870.5300, 870.5375** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment. An invalid MRID was cited in the Human Health Risk Assessment; the correct MRID is cited here.
- 42 **870.5385, 870.5395, 870.5450, 870.5550** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- 43 **870.7485** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- 44 **870.7600** – The studies cited are acceptable and satisfy the data requirement as per the Human Health Risk Assessment.
- 45 **870.7800** – The study cited is acceptable and satisfies the data requirement as per the Human Health Risk Assessment.
- 46 **875.1100, 875.1300, 875.1500, 875.1500, 875.1600, 875.1700** – Gruhn Mill Crop Solutions, LLC is a licensee in good standing with the Agricultural Handlers Exposure Task Force (AHETF).
- 47 **875.2200, 875.2400, 875.2500, 875.2600, 875.2700, 875.2800, 875.2900, 875.3000** – Gruhn Mill Crop Solutions, LLC is a licensee in good standing with the Agricultural Reentry Task Force (ARTF) and the Outdoor Residential Exposure Task Force (ORETF).
- 48 **201-1, 202-1** – Gruhn Mill Crop Solutions, LLC is a licensee in good standing with the Spray Drift Task Force (SDTF).
- 49 **850.4100** – The studies cited are supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- 50 **850.4150** – The studies cited are supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- 51 **850.4400, 850.4500** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment. Additional submitted data that are not required are not cited.
- 52 **850.4550** – The study cited is acceptable and satisfies the data requirement as per the Ecological Risk Assessment.
- 53 **835.2120** – The study cited is acceptable and satisfies the data requirement as per the Ecological Risk Assessment.
- 54 **835.2240** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- 55 **835.2410** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment. Additional data classified as unacceptable are not cited.
- 56 **835.4100** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment. Additional data classified as unacceptable are not cited.
- 57 **835.4200** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- 58 **835.4300** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- 59 **835.4400** – The study cited is supplemental but satisfies the data requirement as per the Ecological Risk Assessment. Additional data classified as unacceptable are not cited.
- 60 **835.1230** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment.
- 61 **835.1410** – The studies cited are acceptable and satisfy the data requirement as per the Ecological Risk Assessment.

Data Matrix Endnotes for Glufosinate Technical

- ⁶² **835.6100** – The studies cited are acceptable or supplemental but satisfy the data requirement as per the Ecological Risk Assessment. Additional data classified as unacceptable or upgradeable are not cited.
- ⁶³ **835.6200** – These data are not required based on the proposed use patterns of Glufosinate Technical.
- ⁶⁴ **850.6100** – The studies cited are upgradeable as per the Ecological Risk Assessment. It appears MRID No. 49055301 was submitted for this purpose and the data requirement is satisfied.